SBIR Technical Conference Call
Questions for NIH

June 25, 2003

1. We are concerned about the volume of large transactions that can be expected to occur during the hours leading up to an application deadline. No matter how robust the infrastructure the risk of a traffic jam is real and difficult to predict.

   With different vendors providing different electronic submission mechanisms/solutions, those submitting proposals may be very confused if solution #1 is functioning at time X, but #2 is not due to hardware errors, Internet problems, and or other factors. In the spirit of fairness to NIH proposal writers, there will need to be clear-cut guidelines so that proposal writers feel that all solutions are equally "safe." It would be helpful to set some policy decision that can guide us as to expected load capability.

   Our own experience with the Department of Education and the National Sciences Foundation has revealed that: even the government has occasional down periods, and a system is in place to grant "extensions" on a rapid basis (thus alleviating much anxiety on the part of the applicant).

   1a. When will applications be due? 12 a.m.? The DOD has gone to a 6 a.m. EDT submission time to solve some of its problems. NSF uses 5 p.m. (LOCAL) [which thus spreads the load across 4 different times]. Dept of Ed uses 4 p.m. Eastern time, so technical support staff are available up to, and immediately following, the deadline time.

The architecture we have defined mitigates last-minute rush problems.

- *The Ticket is a very small transaction that we should be able to absorb rapidly.*
- *Almost all responses that require access to the database are asynchronous, queued and processed when capacity is available.*
- *The deadline is met when the ticket is received and processed.*
- *Right now, it takes hours and days to process the truckloads of applications. A few minutes or hours before the NIH obtains the application itself is not a real problem. NIH cannot review or process them that fast anyway due to staffing constraints.*
- *In the future, the Grants.gov site will be a submission site for transactions. Its current host is AT&T which should have almost unlimited bandwidth.*
- *We are planning to put up a validation site that would allow the submitter to "test" the application before the deadline.*

I am not sure if there is an official answer yet, but the grantee community asked us to set the deadline at Close of Business (not later). So it is likely that the submission deadline will be at 4 to 6 p.m., probably local time—same model as NSF to spread the volume.

1b. What happens after the deadline? Can the authors submit after the deadline? Under what circumstances would a "late" proposal still be accepted by the NIH (technical error? at the discretion of the Institute? other reasons? Note: NSF's door doesn't close).

There will be provisions to receive late applications from a technical standpoint. However, this is a policy issue. After the deadline, the NIH decides whether to accept the receipt or not. The rules will be

essentially the same as for the paper system. Late applications usually require approval from the NIH. If you get stuck in traffic delivering to Fed Express, how do you deal with it? Same with technical problems.

The NIH does not give approval in advance for a late application. We consider late applications depending when they are received and the reasons provided. Normally, we work on the applications that were received on time first and then go to the late ones and that will continue. The "window" for being late will likely greatly decrease, especially if/when electronic submission allows the NIH to shorten the submission-to-award cycle.

1c. Can the company "automatically" grant an extension for ____ reason?

Extensions are NIH's domain. The NIH is not likely to release that responsibility, nor do I think the companies really want to take on that burden.

1d. If not, whom can we call at NIH and how fast will they answer?

Receipt or Referral has a published help number. Technical issues can be routed to the eRA Help desk, which will be involved in the Pilot.

1e. Are we expected to have people on hand to answer phone-based questions (at 12 a.m.)? What is a reasonable response time? This is a significant challenge for a small business (as opposed to NSF).

The eRA Help desk is from 7 a.m. to 5 p.m. EST. In the Pilot, we will have the technical teams assist. I think it is reasonable to assume that only if volume grows tremendously will the hours be extended.

1f. What is a reasonable extension time—1 day?

The NIH does not give permission in advance nor does the NIH give target dates. The review staff is consulted about accepting a late application. Certainly the time to the meeting is a major factor. One day is not likely to be sufficient for the truly needy reasons, e.g., early arrival of a child, serious illness, funeral, shutdown due to severe weather.

1g. How much "down time" on the vendor side would constitute a problem worth addressing in a policy? Clearly an hour could cause significant difficulty for a proposal writer, where as 5 minutes probably would not.

This is a good question for the NIH policy office. I do not think it has been addressed. On the other hand, this may be the responsibility of providers to have redundancy in their systems.

1h. Similarly, how much "down time" on the part of NIH hardware for accepting the proposal will be considered a problem?

NIH will build a redundant architecture over time as volume increases. If we communicate directly with the Service Provider as opposed to going through Grants.gov, only the ticket needs to be received and processed to meet deadlines. Other transactions, such as transferring the application itself, can be delayed without major consequences. The internal architecture of the eRA system is also being upgraded to be highly available.

1i. How will NIH judge our "performance" in deciding that our solution is "acceptable"? Will aspects such as volume of transmissions be a factor, or equipment performance alone?

This is a question for the SBIR program official or the NIH policy office.

One of the components of the CGAP project is to redefine the entire receipt process by describing the business process (as opposed to the technical aspects) and asking the same types of questions you are

asking to the policy makers. We have spent quite a bit of time discussing these processes but there is not yet a final document. This will take some time and may not be final until after some more discussions and meetings including coordination with Grants.gov.

2. Does NIH have a sample XML file that they have created during testing that they can share for us to compare with our file when formatting data from our database?

Yes, we have a bare-bones one. We will post it as soon as it is cleaned up a bit. You may have to fix up some data to avoid duplication and change the identifiers.

3. Our customers typically will be working on their grant applications as close to the deadline as they can. If they work right up to the last minute, they will be anxious to know if they made it. Will it be possible for us to determine, from the response to the Ticket Request message, if the ticket was submitted on time?

There are two acknowledgements for the ticket: Ticket message received and Ticket processed.

The "ticket processed" message allows you to give the information to your PI through your system.

We will have a provision for a "Status Request" transaction that will allow your system to ask for the information about a ticket, application or grant. You provide the front end. It will be an asynchronous transaction this year. Next year, we may have an RPC Web service.

4. Is there a definition yet for "on time," e.g., at or before 12:00 midnight on the grant deadline date, 12:00 in the PI"s time zone? 12:00 Eastern time, 9 p.m. Pacific?

For the Pilot we probably will use 5 p.m. your local time.

5. If the Message Validation and Routing (NIH Exchange steps M1-M8, CGAPIE, section 4.3.1) detect a problem with the Ticket Request, how will the problem be identified to the service provider? What kind of message is sent to the service provider as an unsuccessful ticket response (SP7)?

Message definitions have been published and are available on the eRA Web site as part of the "Packaging" document. Heads up: the document will be renamed in the next posting to "CGAP Message Packaging."

6. Exactly what kind of message is sent from the NIH to the service provider as a (successful) ticket response (SP7)? Our guess is a "Ticket Request" message with the "Response" element filled in.

Essentially, you will be provided an identifier from the NIH that will allow tracking the application thereafter. See scenario and message definitions.

7. A "Status" message is described in the packaging document. Who sends and/or receives this message? There is a note in CGAPIE that "The submitter of the application will be able to check on the status of the application submission by: ... Submitting a request for status as a Web Service request to NIH." Is there any additional detail available on this? Is "the submitter" the "PI+Institution" or the service provider?

See message definitions. The submitter is the system-trading partner for the exchange and its own applications. The real submitter is up to each service provider to define. For the Pilot, we will answer the requests for the e-applications submitted from this service provider only. Later we will open it up when we have some feedback on security inside the institutions. We may require additional security before we expand on the "status service" due to privacy issues.

8. Is the response to the Status message asynchronous like the response to the Ticket Request?

Yes, for now.

9. Section 4.3.3 of CGAPIE refers to interactions between the service provider and profiles on the eRA Commons. Have any details of this exchange been worked out?

First release, we simply state that all PI and Key personnel must have an eRA Commons Profile. This summer, we will work out personal and institution profile transactions. We use only the User ID and DUNs. All other personal information is retrieved from the eRA Commons. The discarded items are in the mapping document. There will be adjustments made as we work out the transactions and scenarios, especially with Grants.gov and the Central Contractor Registry.

10. Figure 2 on page 7 is labeled *Figure 2: Structure of the Message Header.* This is a typo isn't it? Figure 2 seems to be an entire message, not just the header.

Yes. I think the author wanted to attract attention to the 2 ebXML header and CGAP header.

11. We've been trying to match the information in the packaging document "CGAP Message Packaging" with the process outlined in CGAPIE and run into a few questions. First off, it would be helpful if the XSD files listed in the packaging document were available as a separate download. We've copied and pasted from the PDF document and the resulting XML doesn't parse correctly without making changes (i.e., none of the import commands have a schemaLocation element on them).

The XSD files have been sent out and will be posted.

We will send them again with a couple of small changes, including one that was missing in the package.

We are in a prototype mode!

11a. What are the allowable actions (eb:Action)? Without this, the document is difficult to interpret because there are a bunch of data elements that we don't know how to put into a flow.

Please resend this questions with clarification.

11b. It is a little unclear how much we need to implement on our (service provider) side. For example, CGAPIE states that the return from a ticket request will be sent asynchronously from the request itself. Does that mean we need to implement the response object and possibly detect and return the same errors you might return for the ticket request?

Yes, responses will be sent. A standard format has been selected for error messages. See the added process definition for the July test and the message definitions.

12. CGAPIE, on pages 33 and 34, between (I9) and (Q23), indicates that the file transfer happens in 3, possibly 4 steps. Here is our understanding with some associated questions:

    Step 1: NIH contacts our computer and presents credentials.

    Q: How? Does NIH send a message? If so, what message? or does NIH login?

You have a listener, NIH logs in and retrieves the file for which you have provided the location in the Ticket.

    Step 2. NIH initiates the file transfer

    Q: Is this done via an HTTPS GET? If not, what method is going to be used?

Yes.

Step 3: NIH sends us a message (SP6).

Q: What message format is this and what does it indicate?

See message definitions.

Step 4: The file received by NIH is processed as any other message through the Message Validation and Routing processor (steps M1 through M7). If successful the application file is then submitted to the Application Receipt processor(s).

Q: What happens if it is not successful? It looks like NIH could send us a message of some kind, which would be step M8.

We have defined a standard format for error messages and have a list of errors. There do not have

13. In CGAPIE, pages 34 and 35, step (AP4) says, "After the data is successfully loaded, a grant application acceptance message is formulated." This message is a business message informing that the application has been received and accepted by NIH, contingent on a QA review, additional information to be provided or other conditions... The outgoing message is submitted to the NIH Exchange for processing.

    It appears that this message is headed for us (the service provider). What format will this message have?

See message definitions. Correction: there is not really acceptance of an application by NIH, mostly acknowledgement of receipt. There is only one form of acceptance and that is the award, everything before that is tentative and just processing.

14. Will the "checksum" be implemented in the pilot release in July. If it is, what is the rule (algorithm) of the implementation of the checksum?

Checksum will not be implemented for the July release. The NIH exchange will assume files that are downloaded are valid. Therefore, anything placed in the checksum tag of the ticket will be ignored for the July release.

The "CGAP Message Packaging" document will be updated in the near future to contain the algorithm and information for how to implement the checksum. The plan at this time is to use SHA-1 and MD5 algorithms for the checksum.